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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,238	11/12/2003	Dac-Jong Jang	1793.1060	3540
21171	7590	10/02/2007		
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER KAYRISH, MATTHEW	
			ART UNIT 2627	PAPER NUMBER
			MAIL DATE 10/02/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/705,238

Applicant(s)

JANG ET AL.

Examiner

Matthew G. Kayrish

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,10-15,17,26-31,33-35 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,10-15,17,26-31,33-35 and 42-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/11/2007 has been entered.

### ***Response to Arguments***

Applicant's arguments filed 6/11/2007 have been fully considered but they are not persuasive. Regarding the arguments to claims 1, 17 and 35, that the position of the magnets being L-shaped compared to  $\neg$  shaped is not persuasive because, Santo discloses this position in figures 11A and 11B. Furthermore, the forces caused by the coils and reversing the direction of the current to position the lens either up or down by up or down forces can alter magnets. Furthermore, relocation of parts in an application to perform the same operation is not a reason for patentability. In re JAPIKSE (CCPA), 86 USPQ 70, Decided May 9, 1950, Appl. No. 5634, U.S. Court of Customs and Patent Appeals.

Regarding the argument that the  $\neg$  shape is directed to the intensity of magnetic flux, not the focus direction, the examiner respectfully disagrees. The varying magnetic flux causes changes of the bobbin in the focus direction. Furthermore, Santo discloses

driving forces in the focusing direction. These driving forces caused by the current in the focusing coils, which causes the magnetic flux. The interaction between the magnets and the magnetic flux caused by the current in the coils is the driving force. Therefore, claims 1, 17 and 35 remain rejected for at least the reasons presented above. Claims 1, 17 and 35 have been amended to contain the subject matter of canceled claims 2, 3, 6, 7, 18, 19, 22, 23, and 36-39. Claims 8, 9, 24, 25, 46-48, 51, 52, 54-56, 59, 60, 62-66, 68, 69, 72 and 73 have been canceled. Claims 1, 10-15, 17, 26-31, 33-35 and 42-44 remain pending.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 10-15, 17, 26-31, 33-35 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santo et al (US Patent Number 6587284), in view of Kasuga et al (US Patent Number 5844881).

Regarding claims 1, 10, 11, 14, 15, 17, 26, 27, 30, 31, 35, 43 and 44 Santo discloses:

An optical recording and/or reproducing apparatus for a disc, comprising:

An optical pickup, comprising:

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An optical pickup actuator for an objective lens, comprising:

An optical pickup actuator driving an objective lens movably installed along a radial direction of the disc (column 1, lines 24-31) to record information on the disc and/or reproduce information recorded on the disc (column 1, lines 7-12);

An optical pickup actuator performing biaxial, triaxial, or quadriaxial movements (figure 11c, current indicated by arrows If, It and Rt represent focus, tracking and tilt) by controlling direction of current applied to the first and second focusing/tilting coils (column 17, lines 28-40);

Wherein the optical pickup actuator includes:

A base (figure 10, item 10);

An objective lens focusing light emitted from a light source (figure 10, item 1);

A bobbin (figure 10, item 51) holding the objective lens (figure 10, item 1);

A support (figure 10, item 53) fixed at one end to a holder (figure 10, item 11) placed on a side of the base (fixed to side of base [10]) and fixed at the other end to a side surface of the bobbin (supports [53] connect the bobbin [53] to the holder [11]), and movably supporting the bobbin (column 16, lines 55-61);

A pair of magnetic circuits (figure 10, items 8a & 8c), each of the pair positioned on a different side surface of the bobbin and oppose each other (magnetic circuits are on different sides of bobbin and they oppose each other);

A focusing servo and a tracking servo (figure 10, the servo is the magnetic circuit consisting of printed coil boards [54a & 54b] and magnets [8a & 8c]);

A controlling unit controlling the focusing servo and the tracking servo (column 8, lines 20-26);

A magnetic circuit, comprising:

A magnet including first, second, third and fourth magnet parts (figure 11c, items 8a1, 8a2, 8a3 and 8a4), the first and second magnet parts (figure 11c, items 8a3 & 8a4) disposed adjacent to each other (figure 11c, 8a3 & 8a4 are adjacent to each other) and having opposite polarizations (figure 11c, opposing magnetic flux indicates opposite poles), the third and fourth magnet parts (figure 11c, items 8a1 & 8a2) respectively neighboring the first and second magnet parts (figure 11c) such that at least two sides thereof are enclosed by the first and second magnet parts (figure 11c, 8a1 & 8a2 are enclosed by 8a3 & 8a4), and having opposite polarizations to the first and second magnet parts (figure 11c, asymmetric magnetic flux indicates opposite polarizations), respectively;

A tracking coil (figure 11c, item 56) interacting with the first and second magnet parts (figure 11c) generating a driving force in a tracking direction (column 18, lines 43-49);

A first focusing/tilting coil (figure 11c, item 55b) interacting with the first and third magnet parts and a second focusing/tilting coil (figure 11c, item 55a) interacting with the second and fourth magnet parts, generating a driving force in at least one of a focusing direction and a tilting direction including the focusing direction (column 18, lines 43-49);

Wherein a magnetic flux intensity distribution has an asymmetric shape (figure 11c, the magnetic flux intensity distribution is asymmetric as indicated by the arrows and the circles with dots and X's);

Wherein at least one of the first and second focusing/tilting coils and the tracking coil is a fine pattern coil (column 16, lines 44-46, printed circuit boards are fine coil patterns).

Wherein the first and second magnet parts are substantially  $\neg$  shaped and symmetric so that the magnetic circuit is used when a driving center is required to be positioned upward (figure 11c, indicated by arrow  $F_o$ ).

Santo fails to specifically disclose:

Wherein the position of the neutral zone between the first and third magnet parts and the position of the neutral zone between the second and fourth magnet parts along the focusing direction are changeable in order to optimize a tracking sensitivity.

Kasuga discloses:

Wherein the position of the neutral zone between the first and third magnet parts (figure 9, item Z) and the position of the neutral zone between the second and fourth magnet parts (figure 9, item Z) along the focusing direction are changeable (See figure 9) in order to optimize a tracking sensitivity (column 4, lines 16-28 & lines 61-67).

Wherein moving the position of the neutral zone (column 5, lines 1-13 & lines 20-34) changes the magnetic flux of the respective magnet parts (column 5, lines 13-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place changeable gaps between Santo et al's magnets, as taught by Kasuga, because adjusting the height of the lens holder in the focus direction. When adding this feature to Santo et al's magnets, the L-shape of the magnets combined with the adjustment of the square magnet would provide for a change in the magnetic flux in both the tracking and the focus direction, therefore, one would be able to physically set the magnets for optimal sensitivity in the tracking direction. Furthermore, by adding the changeability to the magnets, the flux intensity distribution would be changing asymmetrically depending on how much each individual magnet was moved with respect to the spacing [Z]. This is discussed by Kasuga in column 4, lines 13-28.

Regarding claims 12, 13, 28, 29 and 42, Santo and Kasuga disclose the features of base claims 1, 10, 17, 26 and 35, as stated in the 103 rejection, Santo further disclosing:

Wherein the magnet includes a 4-polarization surface-polarized magnet or a pair of 2-polarization surface-polarized magnets (figure 11c, 2 pair of oppositely polarized magnets).

Regarding claim 33, Santo and Kasuga disclose the features of base claim 17, as stated in the 103 rejection, Santo further disclosing:

Wherein the end of the support fixed to the side surface that is different from the side surfaces on which the magnetic circuits are positioned (figure 10, bobbin is attached to supports on sides different from the magnetic circuit).



Regarding claim 34, Santo and Kasuga disclose the features of base claim 17, as stated in the 103 rejection, Santo further disclosing:

Wherein either one of the first and second focusing/tilting coils and the tracking coil or the magnet is positioned on the side surface of the bobbin, and the other one is installed on the base (figure 10, item 54 is on the bobbin, item 8 is on the base).

### ***Conclusion***

This is a continuation of applicant's earlier Application No. 10705238. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew G. Kayrish

9/26/2007

MGK

  
9/26/07

**Brian E. Miller /Brian E. Miller/  
Primary Patent Examiner AU2627**